DUSHENKO, N.

With the cement workers of Amvrosiyevka. Okhr.truda i sots.strakh. no.4:22-24 O '58. (MIRA 12:1)
(Amvrosiyevka (Stalino Province)--Cement industries--Hygienic aspects)

J

COUNTRY	: USSR
CATEGORY	: Soil Cience. Physical and Chemical Properties of Soil.
ABS. JOUR.	: RZhBiol., No. 4, 1959, No. 16347
UTHOR	: Dushenko, V.P.
INST.	: Not given
TITLE	: Physical Nature of the Second Critical Point of Velocity Curves of Soil Siccatives (Clay).
ORIG. PUB.	: Pochvodvedeniye, 1958, No.5, 87-94
ABSTRACT	: An investigation on the dynamics of the process of dessication of fine clay samples was conducted in a circulating drying plant with a constant temperature and humidity. Two critical points were isolated on the velocity curves of the siccatives. Data on the values of the humidity, which corresponded to the second critical point, agreed with the amounts of bound water determined by other methods. The author recommends that velocity curves of siccatives by utilized to de-

DUSHENKOVA, L. I.

The effect of acid and alkaline nutrition on the metabolic processes. E. M. Selnatsev and L. I. Dushenk[illegible] [illegible]
Yugo-Vostoch. Zonal'n. Nauch. ~~*Tiled*~~ [illegible]
[illegible] i Kormo[illegible], [illegible] 1953 [illegible]
ferat. Zhur. [illegible] 1955 [illegible]
addition [illegible]
salts [illegible]
(H_2SO_4, [illegible] I, II [illegible]
equiv [illegible] III [illegible]
assimilation [illegible]
digestion [illegible] III
that in rabbits receiving I or II [illegible]
tractable substances was [illegible] I [illegible]
balance was higher in the rabbits [illegible]
treated with III [illegible]
receiving [illegible] I

DUSHENKOVA, L.I.

KABOZOV, S.M., kandidat sel'skokhozyaystvennykh nauk; DUSHENKOVA, L.I.

Protein-vitamin paste as a substitute for feeds of animal origin in livestock and poultry rations. Trudy VNIIK 3:260-278 '56. (MLRA 10:4)
(Feeding and feeding stuffs)

MYSYUTKINA, V.M., kand.sel'skokhozyaystvennykh nauk; DUSHENKOVA, L.I.,
mladshiy nauchnyy sotrudnik

New constants for determining the caloric value of milk. (MIRA 16:5)
Zhivotnovodstvo 22 no.7:82 '60.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhivotnovodstva.
(Milk--Analysis and examination)

DUSHEV, Todor

Economic and agrobotanical characteristics of Druzhba, a new mulberry variety. Selskostop nauka 2 no.5/6:619-624 '63.

DUSHEV, Todor

Complex hybrids in Soviet sericulture. Selskostop nauka 2 no.10:1279-1282 '63.

DUSHEV, T.

SCIENCE

Periodical: IZVESTIIA. BULLETIN Vol. 8, 1957

DUSHEV, T. Results from experiments in stimulating silkworm seeds of the mulberry bombycid moth, Bombyx mori L. p. 119.

Monthly List of East European Accessions (EEAI), IC. Vol. 8, no. 2
February 1959, Unclass.

DUSHEV, T., dotsent (Plovdiv)

The Mulberry tree: agrobiological and economic characteristics.
Prir i znanie 13 no.3:4-5 Mr '60. (EEAI 9:10)

1. VSI "V.Kolarov", Plovdiv.
(Mulberry)

DUSHEV, Todor, dotsent (Plovdiv)

Life and death of the silk moth. Prir i znanie 13 no.5:10-12 My '60.
(EEAI 9:11)

1. VSI "V.Kolarov", Plovdiv.
(Sericulture)

DUSHEV, Todor, dots. Vissh selskostopanski institut (VSI)"V. Kolarov",
Plovdiv.

Natural and artificial silk. Prir i znanie 14 no.5:19-20 My '61.
(EEAI 10:9/10)

(Silk) (Rayon)

DUSHEV, T., dots.

Condition of the present world's production of cocoons and silk.
Prir i znanie 14 no.6:2 Je '61. (EEAI 10:9/10)

(Silkworms) (Silk)

DUSHEV, T., dots.

Biological method in fighting the disease pebrine at the production of silkworm eggs and its importance for our own production of the latter. Priroda Bulg 10 no.6:61-63 '61.

1. VSI "Vasil Kolarov", Plovdiv.

DUSHEV, T., prof.; KANSAREV, G., st. asist.

Comparative studies of heterosis and its effect in the generations of certain semihybrid combinations of mulberry-tree silkworms. Priroda Bulg 11 no.5:97-99 S-O '62.

1. Vissh selsko-stopanski institut "V. Kolarov" v Plovdiv.

DUSHEV, Todor, prof.

The silkworm cocoon. Prir i znanie 15 no.6:4-6 Je '62.

1. Vissh selsko-stopanski institut "V. Kolarov", Plovdiv.

DUSHEV, T., prof.

Regulation of sex in silkworms. Priroda Bulg 11 no. 6:
78-79 N-D '63.

1. Vissh selskostopanski institut "V. Kolarov", Plovdiv.

DUSHEV, Todor, prof.

Influence of sex on the morphological and technolgical qualities of silkworm (Bombyx mori L.) cocoons. Priroda Bulg 12 no. 6:85-87 N-D '63.

1. The Vasil Kolarov Higher Agricultural Institute, Plovdiv.

DUSHEV, Todor, prof.

Repeated silkworm breedings and their importance for the Bulgarian sericulture. Prir i znanie 16 no.7:1-3 S '63.

DUSHEVIN, I.P.

YANOVICH, T.D.; BLIZNICHENKO, A.G.; ZARUBINA, L.V.; MSTIBOVSKIY, S.A.;
BERKOVICH, A.I.; DUSHEVIN, I.P.

Leptospira canicola infections in one of the precincts of Rostov-on-Don. Zhur. mikrobiol. epid. i immun 28 no.2:100-104 F '57
(MLRA 10:4)

1. Iz Instituta epidemiologii, mikrobiologii i gigiyeny, Gorodskoy i rayonnoy sanitarno-epidemiologicheskoy stantsii Rostova-na-Donu.
(LEPTOSPIROSIS, epidemiol.
Leptospira canicola infect. in Russia)

DUSHEVSKIY, I.V.; PETROV, Yu.N.

Determination of iron in organic electrolytes. Zav.lab. 29 no.7:807 '63. (MIRA 16:8)

1. Kishinevskiy sel'skokhozyaystvennyy institut im. M.V.Frunze.
(Iron--Analysis)

DUSHEVSKIY, P.L., inzh.; IVASHKEVICH, V.P., inzh.; SHCHERBIN, K.P., inzh.

Using hard alloys in drop forging. Mashinostroenie no.6:18-19 N-D '63. (MIRA 16:12)

DUSHENKO, A.A.

Incorporation of radioactive sulfur of methionine into tissue and blood serum proteins of rats as related to the degree of vitamin A supply. Ukr. biokhim. zhur. 32 no.6:823-831 '60. (MIRA 14:2)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.
(VITAMINS—A) (PROTEIN METABOLISM)

CHAGOVETS, R.V. [Chahovets', R.V.]; DUSHEYKO, A.A.

Incorporation of radioactive methionine into serum protein fractions of rats under normal conditions and A avitaminosis. Ukr. biokhim. zhur. 33 no.5:676-688 '61. (MIRA 14:10)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R.

(BLOOD PROTEINS) (VITAMINS—A) (METHIONINE)

DUSHEYKO, A.A. [Dusheiko, A.A.]

Incorporation of methionine-S^{35} in tissue and serum proteins of A-avitaminotic rats on a low-protein diet. Ukr.biokhim.zhur. 34 no.1:65-69 '62. (MIRA 17:5)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

VILENSKIY, Yu.B.; VERETENOVA, T.N.; LEVI, S.M.; GUSAR', N.I.;
DUSHEYKO, D.A.

Investigating the hardening properties of α,β-dichloro- and α,β-dibromoformylacrylic acids. Zhur.nauch.i prikl.fot. i kin. 6 no.5:334-337 S-O '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

(Photographic emulsions)

DUSHEYKO, D.A.; PETROVA, N.A.; VILENSKIY, Yu.B.

Interaction of polyvinylacetal of 2,4-disulfobenzaldehyde with gelatin. Zhur. nauch. i prikl. fot. i kin. 9 no.1:14-18 Ja-F'64. (MIRA 17:2)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, Shostka.

DUSHEYKO, D.A.; PETROVA, N.A.; VILENSKIY, Yu.B.

Composition of the complex "gelatin-polyvinylacetal 2,4-disulfobenzaldehyde." Zhur.nauch. i prikl.fot. i kin. 9 no.4:262-263 Jl-Ag '64. (MIRA 17:10)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, Shostka.

VILENSKIY, Yu.B.; BLAZHKO, Ye.V.; DUSHEYKO, D.A.; NAUMOVA, A.M.

Electrophoretic study of the system "gelatin-polyvinylacetal 2,4 - disulfobenzaldehyde." Zhur.nauch. i prikl.fot. i kin. 9 no.4:302-303 Jl-Ag '64. (MIRA 17:10)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, Shostka.

DUSHEYKO, D.A.; PETROVA, N.A.; VILENSKIY, Yu.B.

Effect of electrolytes on the solubility of the "gelatin - 2,4 disulfobenzaldehyde - polyvinyl acetal" complex in water. Zhur. nauch. i prikl.fot. i kin. 9 no.6:411-413 N-D '64.
(MIRA 18:1)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, Shostka.

VILENSKIY, Yu.B.; DUSHEYKO, D.A.

Mechanism of the deposition of the solid phase of photographic emulsions by the copolymer of methyl methacrylate and methacrylic acid. Zhur.nauch. i prikl.fot. i kin. 9 no.6:460-461 N-D '64.
(MIRA 18:1)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta.

DUSHEYKO, D.A.; PETROVA, N.A.; VILENSKIY, Yu.B.

Effect of sodium sulfate on the state of the gelatin polyvinylacetal disulfobenzaldehyde system. Zhur. nauch. i prikl. fot. i kin. 10 no.2:81-83 Mr-Ap '65. (MIRA 18:5)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta (NIKFI), Shostka.

DUSHEYKO, S.D. (Moskva)

Pathologicoanatomical changes in the central nervous system and viscera in acute dichloroethane poisoning. Trudy Gos. nauch.-issl. inst. psikh. 38:249-257 '63 (MIRA 16:11)

DUSHIN, A.A.

Strengthen the position of the chief electrician. Avtom. telem. i sviaz' 2 no.12:7-8 D '58. (MIRA 11:12)

1. Nachal'nik sluzhby signalizatsii i svyazi Kirovskoy dorogi.
(Railroads--Signaling)

DUSHIN, Aleksandr Il'ich; SOROKIN, Anatoliy Alekseyevich;

[Projecting holes on the basis of the regularities of their natural curvature] Proektirovanie skvazhin na osnove zakonomernostei ikh estestvennogo iskrivleniia. Moskva, Nedra, 1964. 87 p. (MIRA 18:1)

DUSHIN, B.M. [Dushyn, B.M.]; SHOR, R.M.

Complete mechanization of the glue cooking shops in the Kiev Leather Combine No.6. Leh.prom. no.1:53-55 Ja-Mr '64. (MIRA 19:1)

ISPIRYAN, G.P., kand.tekhn.nauk; YELEN, B.L., inzh.; DUSHIN, B.M., inzh.

Using middle-weight pig skins for manufacturing hard leather. Izv. vys.ucheb.zav.; tekh.leg.prom. no.6:26-32 '58. (MIRA 12:4)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti (for Ispiryan). 2. Ukrainskiy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti (for Yelen, Dushin).
(Leather research)

KOVTUNOVICH, S.D.; DUSHIN, B.M.

Characteristics of the manufacture of chrome leather for prostheses.
Leg.prom. 18 no.6:45 Je '58. (MIRA 12:10)
(Leather industry)

VOROB'YEVA, M.D., tekhnik; DUSHIN, B.M., inzh.; FASTOVETS, O.S., inzh.

New developments in the processing of split leather. Kozh.-obuv. prom. 2 no. 12:32-33 D '60. (MIRA 14:1)
(Leather)

GAL'PERIN, F.I., kand.tekhn.nauk; DUSHIN, B.M., inzh.; GURSHPON, I.B.

Stiff leather for welted and glued-on soles. Kozh.-obuv. prom. 2 no. 11:17-19 N '60. (MIRA 13:12)
(Shoe manufacture) (Leather)

DUSHIN, B.M. [Dushyn, B.M.]; MERZON, A.G. [Merzon, A.H.]

Some problems in the setting of norms for the expediture of raw leather. Leh.prom. no.4:77-80 O-D '62. (MIRA 16:5)

1. Kiyevskiy kozhevennyy zavod No.6 (for Dushin). 2. Ukrainskiy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti (for Merzon).

(Ukraine—Leather industry)

DUSHIN, B.M. [Dushyn, B.M.]; LITVINOV, M.R., [Lytvynov, M.R.];
DERBAREMDIKER, M.L., kand. tekhn. nauk; GERSHENGORN, M.S.
[Hershenhorn, M.S.]

Continuous processing of semifinished products in the Kiev Leather Combine. Leh. prom. no.2:35-37 Ap-Je '63. (MIRA 16:7)

(Kiev—Leather industry)
(Assembly-line methods)

DUSHIN, ~~B.M.~~ [Dushyn, B.M.]; LITVINOV, M.R. [Lytvynov, M.R.]; UMANSKIY, O.A. [Umans'kyi, O.A.]

Refining of chrome leather with grain defects. Leh.prom. no.1:31-32 Ja-Mr '63. (MIRA 16:4)

1. Kiyevskiy kozhevennyy kombinat No.6.

DUSHIN, B.M. [Dushyn, B.M.]; GERSHENGORN, M.S.; UMANSKIY, O.A. [Umans'kyi, O.A.]; DERBAREMDIKER, M.R., kand.tekhn.nauk

Refining of Russian leather and large hides with deep grain defects. Leh.prom. no.3:15-16 Jl-S '63. (MIRA 16:11)

1. Kiyevskiy kozhevennyy kombinat No.6.

DUSHIN, B.M.; LITVINOV, M.R.; GERSHENGORN, M.S.; DERBAREMDIKER, M.L.

Refining of leather. Kozh.-obuv.prom. 5 no.5:33-34 My '63.
(MIRA 16:5)

(Leather)

GRAD, N.Ye.; DUSHIN, B.M.; MERZON, A.G.; SHNITNIKOV, S.Ya.; KOVTUNOVICH, S.D.;
UMANSKIY, A.A.

Efficient utilization of crumpled hides in the manufacture of chrome leather. Kozh.-obuv.prom. 6 no.1:20-22 Ja '64. (MIRA 17:4)

DUSHIN, B.M. Dushyn. B.M.]; DERBAREMDIKER, M.L., kand. tekhn. nauk

Methods for determining the properties of the grain side surface of leather. Leh.prom. no.1:18-20 Ja-Mr '65. (MIRA 18:4)

DUSHIN, B.M. [Dushyn, B.M.]; DERBAREMDIKER, M.Ya. [Derbaremdiker, M.L.]

Filling of chrome leather for shoe uppers. Leh. prom. no.3: 57-58 Jl-S '65. (MIRA 18:9)

DUSHIN, B.M.; DERBAREMDIKER, M.L.

Some characteristics of the tanning process of chromium leather for shoe uppers by means of synthetic and vegetable tanning agents. Leh. prom. no.2:60-61 Ap-Je '65. (MIRA 18:10)

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

F

P

1579. NEW HEAT-INSULATING MATERIALS. Nikolaevskii, A. and Dushin, I. (Kholodil'naya Tekh., 1948, 56-60; abstr., in Chem. Abstr., 1948, vol. 42, 6963).

Mineral cork is produced by impregnation of slag wool with an emulsion of bitumen 100, H_2O 100, kaolin 7, colophony 6, and alkali 1.5 parts by weight; the bitumen and colophony are fused together at 115°, the kaolin suspension is mixed in a separate vessel with alkali at 90-5°, then the two masses are mixed; the emulsion is stable up to 8 month even at low temperatures (-7°). Impregnation is done with a 2% emulsion; the pressed plates are dried at about 140°; The plates have a specific weight of 200-300 k.g./cu.m., heat conductivity ~0.05 cal./sq.m./m./hr/degree, hygroscopicity 4%, H_2O absorption in 24 hrs 20%, in 60 days 210%. Mipora, produced by distilling a mixture of formaldehyde 100, urea 37-38, NaOAc 0.6-0.7, at 95°, condensing the vapours in the presence of a lathering agent (e.g. naphthalene), and drying the formed foam, has a specific weight of 20-30 k.g./cu.m., heat conductivity ~ 0.03, poor water resistane, no resistance to temperatures above 90°, and

COMMON ELEMENTS

COMMON VARIABLES INDEX

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION requires protection aginst mechanical damage. An insulating material made from cellulose (waste paper) 40-50% and wood filings 50-60%, mixed with 4.5-5% colophony and 8-9% alum, dituted to 4% concentration, formed, and dried 24 hrs. at 100-110°, has specific weight 160-200, heat conductivity 0.05, hygroscopicity (10 days) 15%, water absorption (24 hrs) 30-50%. Foam glass is produced by grinding waste glass to 2500 mesh/sq. cm., mixing with 1.3% finely ground gas-evolving material such as limestone, charcoal, or anthracite, sintering in a furnace, and cooling slowly at a rate of not over 0.75-1.5°.min. down to 200°, then 1.5-2°/min. The product has a specific weight of 250-300 k.g./cu.m., heat conductivity 0.08-0.10, hygroscopicity 2.3%, is waterproof, and can be cut.

DUSHIN, I., kandidat tekhnicheskikh nauk.

Calculating the humidification of heat insulating material in refrigerators.
Khol.tekh. 13 no.3:34-39 Jl-S '53. (MLRA 6:11)
(Cold storage--Insulation)

DUSHIN, I.

DUSHIN, I., kandidat tekhnicheskikh nauk.

Channel floors of cold storage warehouses. Khol.tekh. 31 no.2:
41-44 Ap-Je '54. (MLRA 7:7)
(Cold storage)

DUSHIN, I.

DUSHIN, I., kandidat tekhnicheskikh nauk

Insulation in the walls of existing cold storage systems. Khol. tekh.32 no.2:32-38 Ap-Je'55. (MLRA 8:10)
(Cold storage--Insulation)

DUSHIN, I.I., kandidat tekhnicheskikh nauk; KUDRYASHOV, N.T., starshiy nauchnyy sotrudnik, nauchnyy redaktor; VAGANOVA, N.A., redaktor; ROSLOV, G.I., tekhnicheskiy redaktor

[Refrigerator floors over circulating air space; a scientific report] Shantsevye poly kholodil'nikov; nauchnoe soobshchenie. Moskva, Gos. izd-vo torgovoi lit-ry, 1956. 35 p. (MLRA 9:12)
(Refrigerators)

14(1) PHASE I BOOK EXPLOITATION SOV/2138

Dushin, Ivan Fedorovich, Candidate of Technical Sciences

Izolyatsionnyye konstruktsii kholodil'nikov (Insulation Construction of Refrigerators) Moscow, Gostorgizdat, 1958. 46 p. (Series: Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti. Nauchnoye soobshcheniye) 2,000 copies printed.

Sponsoring Agencies: USSR. Ministerstvo torgovli, and Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti.

Scientific Ed.: P.I. Pirog; Ed.: N.V. Chichkov; Tech. Ed.: V.V. Babicheva.

PURPOSE: This booklet is intended for designers and workers in the refrigerating industry.

COVERAGE: The author presents the results of experimental investigation of the insulation of cold-storage plants carried out by the VNIKhI (All-Union Scientific Research Institute of the Refrigeration Industry). In designing insulation, the author recommends

Card 1/3

the use of preassembled constructions. He also makes suggestions for improving the quality of insulating work, increasing efficiency, and maintaining floors, walls, and partitions. He deals with laboratory tests of heat-insulating and vaporproof materials used in cold-storage construction. No personalities are mentioned. There are 8 references, all Soviet.

TABLE OF CONTENTS:

Ch. I. Condition of Insulation in Constructions of Cold-Storage Plants 3

Ch. II. Design and Manufacture of Insulating Constructions for Cold-Storage Plants 18
- Wall construction and insulating materials 18
- Heat-transfer coefficients of walls, floors and partitions 25
- Calculating the thickness of the vapor-insulating layer 28
- Selecting the type of roof 34
- Technical supervision of the construction of cold-storage plants 35

Ch. III. Technical Supervision of Cold-Storage Operation 37

Insulation Construction of Refrigerators SOV/2138

Maintenance of cold-storage insulation 37
Repairing cold-storage insulation 39

Appendix 45

Bibliography 47

AVAILABLE: Library of Congress

GO/bg
8-20-59

Card 3/3

DUSHIN, I.; KUDRYASHOV, N.

Repairing insulation of pipes in cold storage warehouses. Khol. tekh. 35 no.2:62-64 Mr-Ap '58. (MIRA 11:4)

(Cold storage--Insulation)

DUSHIN, I., kand. tekhn. nauk

Results on tests of prefabricated insulation for cold storage warehouses. Khol. tekh. 35 no. 3:9-15 My-Je '58. (MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti.

(Insulation(Heat))
(Cold storage warehouses)

AUTHOR: Dushin, I., Candidate of Technical Sciences SOV/66-59-1-10/32

TITLE: Thermal Calculation of an Installation for Heating the Ground Under Single-Story Cold Storage Houses (Teplovoy raschët ustroystva dlya obogreva grunta pod odnoetazhnymi kholodil'nikami)

PERIODICAL: Kholodil'naya tekhnika, 1959, 36 Nr 1, pp 45-48 (USSR)

ABSTRACT: The article discusses methods aiming at the prevention of the ground from freezing under one-story cold storage houses. The author favors an installation which provides for pipes made from concrete, asbestos cement or ceramics, and placed in the ground underneath the cold storage house, with the idea that the air in these pipes is heated by the outside open air during the warm season and by a heating system during the winter. The heat transfer from the pipes to the adjoining ground and the installation may be calculated by a formula presented in the article and a table showing the temperatures prevailing in various zones, which should be considered in view of their variations. The thermal calculation determines the diameter of the pipes, the distance between the pipes and the circulating air flow velocity, which should depend on the material from which the pipes are made. Thus the distance between the axis of 300 mm pipes should be in temperate zones:

Card 1/2

SOV/66-59-1-10/32

Thermal Calculation of an Installation for Heating the Ground Under Single-Story Cold Storage Houses

1 m for concrete sleeveless pipes, and 1.5 m for bell-mounted ceramic pipes and asbestos cement pipes with sleeves. In southern zones the distance should be 2 m for all kinds of pipes. VNIKhI recommends to reverse from time to time the direction of air flow in the pipes to ensure a uniform heating of the ground.
There are: 1 diagram, 1 graph, 2 tables and 4 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (All-Union Scientific Research Institute of Refrigeration Engineering)

Card 2/2

DUSHIN, I.F., kand.tekhn.nauk

Calculation of the thickness of the insulating walls of commercial refrigerating equipment. Khol.tekh. 38 no.2:6-10 Mr-Ap '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti.
(Refrigeration and refrigerating machinery)
(Insulation (Heat))

DUSHIN, I.F., kand.tekhn.nauk

Testing the systems of ground heating beneath one-story cold storage plants. Khol.tekh. 39 no.2:23-26 Mr-Ap '62.
(MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti.
(Heating) (Cold storage warehouses--Design and construction)
(Frozen ground)

DUSHIN, L.A.; KHIZHNYAK, M.A.

Application of power recuperation to linear accelerators. Ukr. fiz. zhur. 2 no.2:106-113 Ap-Je '57. (MIRA 10:6)

1. Fiziko-tekhnichniy institut Akademii nauk URSR.
(Particle accelerators)

AUTHORS: Dushin, L. A., Maslov, V. A. SOV/57-58-8-34/37

TITLE: Test of a Porcelain Insulator for "Strong" Electrostatic Focusing Lenses in Linear Accelerators (Ispytaniye farforovogo izolyatora dlya elektrostaticheskikh linz "sil'noy" fokusirovki chastits v lineynykh uskoritelyakh)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Nr 8, pp 1837 - 1838 (USSR)

ABSTRACT: The present investigations have led to a full accordance with the results found in reference 5 which was confined to the testing of porcelain rings of electrostatic generators. The number of breakdowns and the leakage current are a function of the time during which the lens is tested in vacuum under high tension, and upon the degree of evacuation during the mounting of the lens. At the beginning of the test run, at about 30 - 40 kV, strong breakdowns occur repeatedly which are accompanied by a gas separation from the surface of the insulator. As time proceeds the intensity and the number of breakdowns is reduced and the leakage current decreases. If the tension applied is increased, these phenomena recur, the electric strength, however, increases in the course of time. Within 48 hours the leakage current drops from its initial

Card 1/2

Test of a Porcelain Insulator for "Strong" Electrostatic Focusing Lenses in Linear Accelerators SOV/57-58-8-34/37

value of 30μA at 50 kV to 4μA at 75 kV at the end of the test. A change of the sign of the high tension from plus to minus resulted in an increase of the leakage current from 4 to 70μA at 75 kV. This is explained by an increase of the self-emission of electrons from the electrode bridge which becomes negative at an inversion of the polarity. There are 2 figures and 6 references, 1 of which is Soviet.

ASSOCIATION: Khar'kovskiy fiziko-tekhnicheskiy institut AN USSR (Khar'kov Physical and Technical Institute, AS UkrSSR)

SUBMITTED: February 24, 1958

Card 2/2

S/781/62/000/000/033/036

AUTHORS: Dushin, L. A., Kononenko, V. I., Privezentsev, V. I., Skibenko, A. I., Tolok, V. T.

TITLE: Microwave plasma diagnostics

SOURCE: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza; doklady I konferentsii po fizike plazmy i probleme upravlyayemykh termoyadernykh reaktsiy. Fiz.-tekh. inst. AN Ukr. SSR. Kiev, Izd-vo AN Ukr. SSR, 1962, 156-164

TEXT: Several methods of plasma diagnostics are described, based on the interaction between the electromagnetic field and the plasma, with the electric field of the wave parallel to the external magnetic field, so that the external magnetic field does not influence the character of propagation of the microwaves used for the measurements. The real and imaginary parts of the coefficient of propagation of a microwave signal thorugh a plasma determine the attenuation and the phase constant of the wave. The plasma density is determined by the frequency at which the microwave signal ceases to pass through the plasma. The character of variation ofthe microwave signal as a function of the pressure was also

Card 1/2

Microwave plasma diagnostics S/781/62/000/000/033/036

determined. Measurements of the variation of the phase and attenuation of the signal make it possible to follow the variation of the density and the electron collision frequency during the decay of the plasma. Phase measurements yielded also data on the distribution of electron density along the radius. At the present time the use of microwave diagnostics is limited by the capabilities of the microwave radiation sources. Present microwave generators have sufficient power to diagnose plasmas with electron densities near 10^{15} per cu. cm. Once submillimeter equipment is available, the densities can probably raised to 10^{16}-10^{18} el. cm^{-3}. There are 11 figures. Reference is made to work by Wharton (ref. 1, Microwave diagnostics for controlled fusion research, UCRL, 1957) and by Wharton and Slager (J. Appl. Phys. 31, 428 - 430, 1960).

Card 2/2

S/051/62/012/005/001/021
E032/E514

24 4710

AUTHORS: Pavlichenko, O.S. and Dushin, L.A.

TITLE: A spectroscopic study of the plasma in a pulsed Phillips discharge

PERIODICAL: Optika i spektroskopiya, v.12, no.5, 1962, 541-545

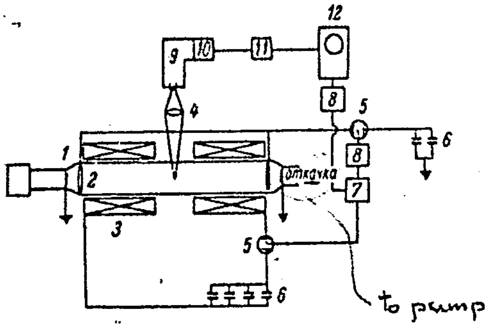
TEXT: The authors report oscillograms of the intensity of the H_α line of hydrogen excited in a pulsed cold-cathode discharge in a magnetic field (Phillips ionization gauge). The apparatus employed is shown in Fig.1 (1 - cathode, 2 - anode, 3 - field coils, 4 - condenser, 5 - ignitrons, 6 - capacitors supplying tube and coils, 7 - triggering circuit, 8 - delay line, 9 - УМ-2 (UM-2) monochromator, 10 - photomultiplier, 11 - cathode follower, 12 - oscilloscope). By discharging a 50 μF capacitor bank (charged to 2-4 kV) it was possible to produce 2-4 kA pulses 60-70 μsec long between the electrodes. The discharge was produced in a glass tube initially pumped down to about 10^{-7} mm Hg. The longitudinal magnetic field was produced by discharging a capacitor bank through the field coils. The length of the magnetic field "pulse" was 2700 μsec

Card 1/2

(H_{max} = 5 kOe). The discharge was investigated in hydrogen in the pressure range $5 \cdot 10^{-3}$ - $150 \cdot 10^{-3}$ mm Hg. Oscillograms of the H_α line were found to exhibit two maxima. The first maximum occurs while the current is passing through the device and the second maximum appears after the current has ceased. The second maximum is ascribed to volume recombination of charged particles in the plasma. There are 7 figures.

SUBMITTED: April 27, 1961

Fig.1



Card 2/2

ACCESSION NR: AT4025287 S/0000/63/000/000/0003/0009

AUTHOR: Dushin, L. A.; Nikol'skiy, I. K.; Pavlichenko, O. S.

TITLE: Spectroscopic method of measuring proton energy in plasmoids

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey. Moscow, Gosatomizdat, 1963, 3-9

TOPIC TAGS: plasma physics, plasmoid, proton, Stark effect, energy distribution, plasma confinement

ABSTRACT: A spectroscopic method is proposed for the measurement of the energy distribution of protons in plasmoids. It is free of some of the shortcomings of existing methods in that it does not require that the plasmoid be taken out of the working volume to the analyzer. The bremsstrahlung and recombination-radiation spectra of the plasmoid are investigated in this method directly, and the proton energy from a Penning ion source is also measured. The procedure can be used to measure the distribution of the proton energy in plasmoids having a density exceeding 10^{13} cm^{-3} and an energy exceeding 100 eV. The tests were made with a continous Penning discharge in hydrogen and in a lingitudinal magnetic field reaching

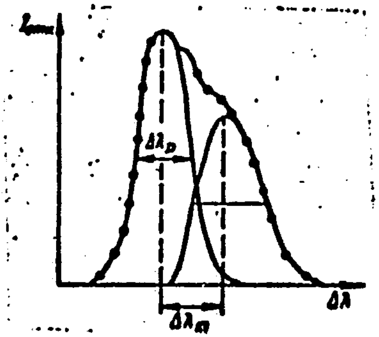
ACCESSION NR: AT4025287

3500 Oe, at source voltage up to 2 kV. The spectral distribution of the radiation intensity near the H_β line with $\lambda = 4{,}861$ Å was measured. It is shown that the density of the ions in the plasmoid can be determined if the exact values of the charge exchange cross sections at the excited levels are known. The plasma density can also be estimated from the Stark broadening of the line. The experimental maximum in the velocity distribution corresponded to an estimated proton energy 30 MeV. The maximum shifts towards higher energy with increasing voltage and with decreasing pressure. Orig. art. has: 1 figure and 10 formulas.

ASSOCIATION: None

SUBMITTED: 19Oct63	DATE ACQ: 16Apr64	ENCL: 01
SUB CODE: ME	NR REF SOV: 002	OTHER: 004

ACCESSION NR: AT4025287 ENCLOSURE: 01



($\Delta\lambda_D$=0,85 Å, $\Delta\lambda_m$=0,95 Å).

Spectral distribution of intensity

ACCESSION NR: AT4025301 S/0000/63/000/000/0117/0123

AUTHORS: Dushin, L. A.; Privezentsev, V. I.; Skibenko, A. I.

TITLE: Measurement of longitudinal radiowave propagation for plasma diagnostics

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey. Moscow, Gosatomizdat, 1963, 117-123

TOPIC TAGS: plasma concentration, plasma electromagnetic property, electromagnetic wave propagation, phase shifter, phase velocity, group velocity

ABSTRACT: It is shown that the density of the plasma can be determined by measuring the phase shift of a radio wave transmitted through the plasma. The propagation of the signal in the ionized plasma in the magnetic field is characterized in the case of longitudinal propagation by the phase and group velocities of the signal. Con-

Card 1/5

ACCESSION NR: AT4025301

sequently, by measuring the delay time of the signal it is possible to determine the electron density at a given instant of time. Experiments were performed using a pulsed source with a molybdenum-glass discharge tube 10 cm in diameter and 130 cm long. The magnetic field could be varied from 0 to 8000 Oe. A 550 Mc signal was used, and helical antennas were used for the radiation and reception of the signal. The time dependence of the average density was determined from oscillogram patterns of signals of wavelengths 55 cm for longitudinal propagation and 8 mm for transverse propagation of the extraordinary and ordinary waves (magnetic fields 1400 Oe, pressure approximately 10^{-2} mm Hg, sweep duration 1200 μsec). The results obtained (delay 0.12 μsec, density 2×10^{14} cm^{-3}) agree well with theory and also with other experiments (O. Pavlichenko, L. Dushin "Optika i spektroskopiya" v. 12, 541, 1962). Orig. art. has: 4 figures and 10 formulas.

ASSOCIATION: None

Card 2/5

ACCESSION NR: AT4025301

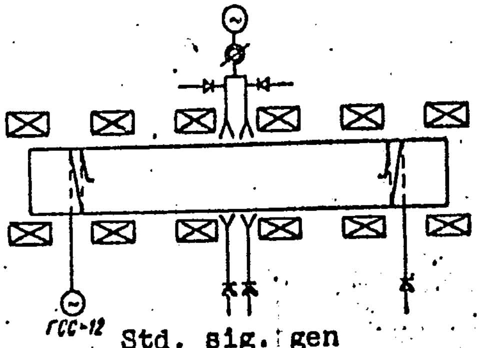
SUBMITTED: 19Oct63 DATE ACQ: 16Apr64 ENCL: 02

SUB CODE: ME, EC NR REF SOV: 002 OTHER: 000

Card 3/5

ACCESSION NR: AT4025301

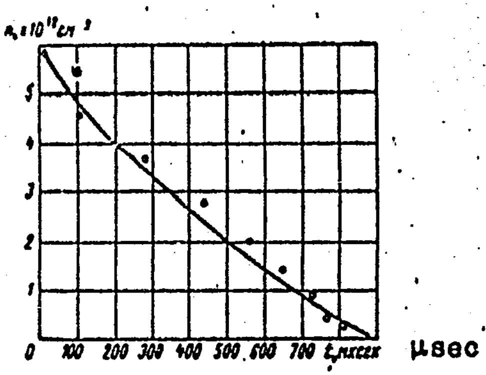
ENCLOSURE: 01



Measurement set-up

Card 4/5

ACCESSION NR: AT 4025301 ENCLOSURE: 02



Time dependence of average density

Card 5/5

ACCESSION NR: AT4036078 S/2781/63/000/003/0348/0353

AUTHORS: Azovskiy, Yu. S.; Guzhovskiy, I. T.; Dushin, L. A.; Privezentsev, V. I.; Churayev, V. A.

TITLE: Microwave methods of plasmoid diagnostics

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 348-353

TOPIC TAGS: plasmoid, plasmoid acceleration, plasma source, plasma density, plasma wave reflection, plasma wave absorption, Doppler effect

ABSTRACT: Several microwave methods used to determine the density and translational velocity of charged particles in a plasmoid. The

Card 1/5

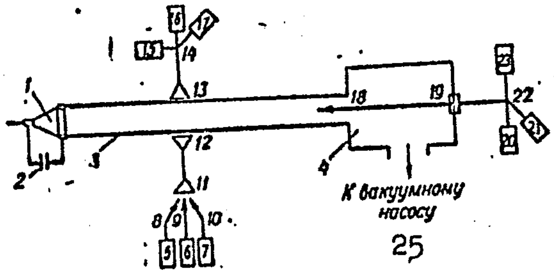
ACCESSION NR: AT4036078

plasmoids were obtained with a conical source from a 6.1 μF capacitor bank. The plasmoid propagated in a glass tube 60 mm in diameter and 1.2 meters long. The pressure in the vacuum system did not exceed 2.7×10^{-3} n/m^2. The electron density was determined from the "cutoff" of the microwave signal, corresponding to the critical density for the given frequency. The plasmoid velocity was determined by the Doppler effect, except that the velocity of the layer with low electron density (10^{10}--10^{11} cm^{-3}) was determined by measuring the detuning of a cavity resonator. The tests have shown that different layers of the plasmoid move with different velocities and this causes the leading front of the plasmoid to become less steep as it moves. "The authors are grateful to B. G. Safronov for a discussion of the results and to O. G. Zagorodny*y for useful advice during the measurements with the cavity resonator." Orig. art. has: 7 figures and 2 formulas.

ACCESSION NR: AT4036078		
ASSOCIATION: None		
SUBMITTED: 00	DATE ACQ: 21May64	ENCL: 02
SUB CODE: ME	NR REF SOV: 003	OTHER: 001

Card 3/5

ACCESSION NR: AT4036078 ENCLOSURE: 01

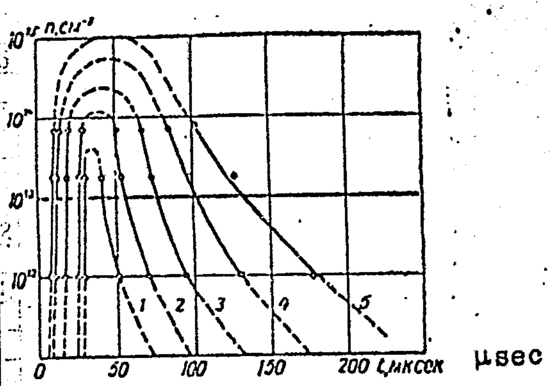


Block diagram of set-up: 1 - conical source; 2 - capacitor bank; 3 - glass tube; 4 - vacuum chamber; 5, 6, 7, 21 - generators; 8, 9, 10, 18 - dielectric antennas; 11 - input horn of waveguide channels; 12, 13 - horns irradiating the plasma; 14, 22 - double waveguide tees; 15, 16, 17, 23 - detector heads; 20 - matching unit; 19 - vacuum seal, 25 - to vacuum pump

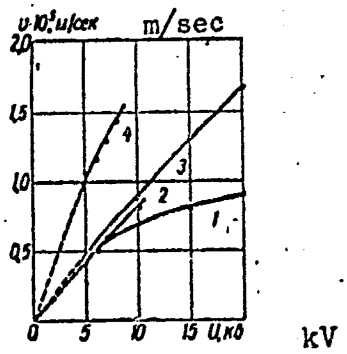
Card 4/5

ACCESSION NR: AT4036078

ENCLOSURE: 02



Distribution of charged-particle density in plasmoids at different voltages (kv): 3 (1), 4 (2), 6 (3), 8(4), and 10 (5). Time measured from start of discharge



Dependence of initial velocity of different layers of the plasmoid on the initial capacitor-bank voltage; densities: 1 - maximum 2 - 10^{12} (Doppler effect), 3 - 10^{12} (hf signal cutoff), 4 - 5 x 10^{10} (cm^{-3})

Card 5/5

ACCESSION NR: AT4036080 S/2781/63/000/003/0357/0364

AUTHORS: Dushin, L. A.; Privezentsev, V. I.; Skibenko, A. I.

TITLE: Microwave methods of plasma measurement in an external magnetic field

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, izd-vo AN UkrSSR, 1963, 357-364

TOPIC TAGS: plasma research, microwave plasma, plasma magnetic field interaction, plasma decay, plasma concentration

ABSTRACT: The theory of propagation of radio waves in magnetoactive plasma (V. L. Ginzburg, Rasprostraneniye elektromagnitny*kh voln v plazme, Fizmatgiz, M., 1960) is used as a basis for an experimental

Card 1/5

ACCESSION NR: AT4036080

investigation of transverse propagation of a plasma in a pulsed Philips source described elsewhere (L. A. Dushin et al. UFZh, 1963) with a discharge tube made of molybdenum glass 130 cm long and 10 cm in diameter. An external homogeneous magnetic field of sinusoidal form was used with a period much longer than the lifetime of the plasma. The field amplitude could be varied from 0 to 640 kA/m. The measurements were made during the time of plasma decay. Experiments were made also for longitudinal propagation of the plasma. They have shown that the use of longitudinal propagation for diagnostics can be quite effective in the case of a high-density plasma, when measurements at relatively low frequencies (compared with the plasma frequency) are possible. High accuracy can be attained by satisfying the conditions of geometrical optics, choosing the ratio of the time of pulse passage to the period of the signal frequency, and allowing for the inhomogeneity of the plasma. The experiments indicate that the methods described can be useful for a permanent or quasipermanent magnetic field. The use of transverse propagation is

ACCESSION NR: AT4036080

particularly effective when the magnetic field is on the low side of resonance and close to it. Longitudinal propagation is effective when the electron density of the plasma varies little along the length of the column. Longitudinal measurements are also convenient because high plasma concentrations can be measured with the aid of decimeter and centimeter wavelengths. Orig. art. has: 7 figures and 17 formulas.

ASSOCIATION: None

SUBMITTED: 00	DATE ACQ: 21May64	ENCL: 02
SUB CODE: ME	NR REF SOV: 003	OTHER: 001

Card 3/5

ACCESSION NR: AT4036080 ENCLOSURE: 01

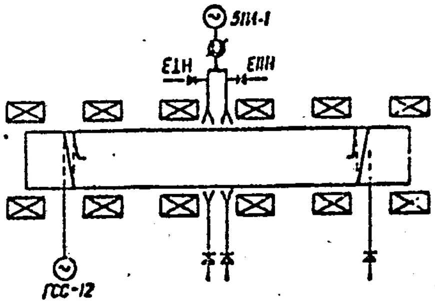
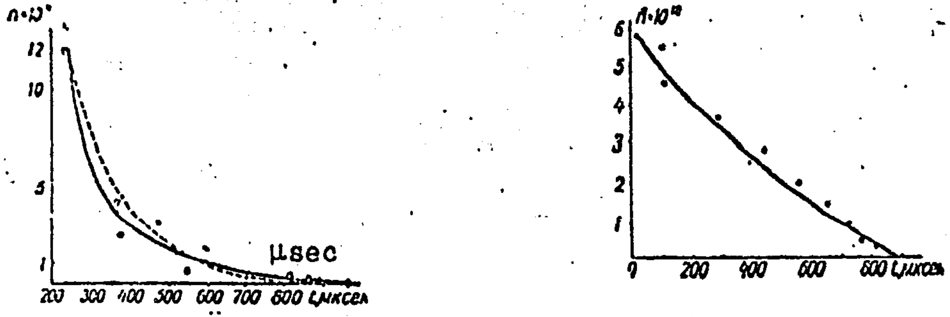


Diagram of set-up

Card 4/5

ACCESSION NR: AT4036080

ENCLOSURE: 02



Time dependence of electron density in transverse propagation (left) and of the average density (right)

Card 5/5

L 15596-63 EWT(1)/EWG(k)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/SSD
Pz-4/Pi-4/Po-4/Pab-4 AT/IJP(C)
ACCESSION NR: AP3005492 S/0170/63/006/009/0057/0060 8/
80

AUTHOR: Azovskiy, Yu. S.; Guzhovskiy, I. T.; Dushin, L. A.; Privezentsev, V. I.; Churayev, V. A.

TITLE: Microwave methods for diagnosing plasmoids 2

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 9, 1963, 57-60

TOPIC TAGS: plasmoid electron concentration distribution, plasmoid critical electron density, plasmoid sharp front boundary, plasmoid velocity measurement

ABSTRACT: This article describes microwave methods for diagnosing plasmoids. The distribution of electron concentration in a plasmoid was studied and the velocity of the plasmoid determined. Plasmoids were produced by means of the discharge of a capacitor bank (6 μf), through a conical source, and were propagated in a glass tube (6 cm in diameter and 120 cm in length) with a residual pressure not exceeding 2×10^{3} newtons per square meter. Probing of plasmoids was carried out at three frequencies: 9×10^{9}, 37.5×10^{9}, and 75×10^{9} cps, which correspond to critical electron densities of 10^{12}, 1.7×10^{13}, and 7×10^{13} cm^{-3}, respectively. The transmitting and receiving antennas were placed at a distance of 50 cm from the plasmoid source. It was found that plasmoids have a sharp front boundary.

Card 1/3

L 15596-63

ACCESSION NR: AP3006492

The plasmoid electron density at a 3-kv capacitor voltage was on the order of 10^{13} cm^{-3}. With an increase in voltage the electron density also increased to a value of 10^{15} cm^{-3} at a voltage higher than 10 kv. The velocities of plasmoids with electron densities of 10^{12} cm^{-3} have been measured by the Doppler effect. Velocity measurements of low-density plasmoids (10^{10}—10^{11} cm^{-3}) were made by a method which employs a cavity resonator (9.6 cm in diameter and 100 cm in length) in which the H_{11} mode was excited at a frequency of 2.3×10^9 cps. A plasmoid was simulated by means of a metallic rod inserted into a glass tube placed inside the resonator. The insertion of the rod resulted in the detuning of the resonator and, at points corresponding to the cavity resonance dimensions, resulted in a sharp increase in the indicator voltage. From readings taken at various voltages across the capacitor bank, graphs were plotted of distance versus time for plasmoids with a density of 5×10^{10} cm^{-3}. These graphs showed that different plasmoids moved with different speeds, which resulted in a decrease of the steepness of the plasmoid front as it moved along the tube. Orig. art. has: 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR, Khar'kov (Physicotechnical Institute, AN USSR)

Card 2/3

DUSHIN, L.A. [Dushyn, L.O.]; KONONENKO, V.I.; KOVTUN, R.I.; SKIBENKO, A.I. [Skybenko, A.I.]; SINEL'NIKOV, K.D. [Synel'nykov, K.D.]; TOLOK, V.T.

Study of a plasma using a microwave interferometer. Ukr. fiz. zhur. 8 no.7:740-746 Jl '63. (MIRA 16:8)

1. Fiziko-tekhnicheskiy institut AN UkrSSR, Khar'kov.
(Plasma (Ionized gases))
(Interferometry)

GRIGORENKO, V.G. [Hryhorenko, V.H.]; DUSHIN, L.A. [Dushyn, L.A.]

High-speed microwave interferometer with direct reading of phase shifts. Ukr. fiz. zhur. 9 no.11:1185-1191 N '64. (MIRA 18:1)

1. Fiziko-tekhnicheskiy institut AN UkrSSR, Khar'kov.

ACCESSION NR: AP4015555 S/0089/64/016/002/0099/0103

AUTHOR: Adamov, I. Yu.; Dushin, L. A.; Kononenko, V. I.; Pavlichenko, O. S.

TITLE: Microwave emission of an electrodeless induction discharge

SOURCE: Atomnaya energiya, v. 16, no. 2, 1964, 99-103

TOPIC TAGS: microwave plasma emission, electrodeless plasma discharge, hyperthermal plasma emission, betatron emission mechanism

ABSTRACT: The purpose of the present work is the verification of the assumption made by other authors concerning the possibility of a hyperthermal microwave emission by a plasma of an electrodeless induction discharge. The discharge was in hydrogen, the variable magnetic field was created by a one-layer coil, 11 cm in diameter, 20 cm long connected to a 18.6 μf capacitor. The period of oscillation was 8.6 μ sec. Magnetic probes were used for measuring the magnetic field in and out of the plasma. Both the microwave and the X-ray

Card 1/2

ACCESSION NR: AP4015555

emission were recorded. A correlation of both types of emission was confirmed. The microwave emission appears when there is a critical plasma density for a given frequency. The microwave power emitted is in several orders of magnitude higher than that which corresponds to thermal emission. "The authors are grateful to Ya. F. Volkov, V. A. Suprunenko, V. T. Tolok, and Ya. B. Faynberg for discussions and to L. V. Brzhechko for help with the work." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 22Apr63 DATE ACQ: 12Mar64 ENCL: 00

SUB CODE: PH, GE NO REF SOV: 003 OTHER: 003

Card 2/2

ACCESSION NR: AP4028943 S/0057/64/034/004/0590/0596

AUTHOR: Pavlichenko, O.S.; Dushin, L.A.; Nikol'skiy, I.K.; Brzhechko, L.V.

TITLE: Macroscopic plasma instability in a reflex discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.4, 1964, 590-596

TOPIC TAGS: plasma, plasma instability, reflex discharge plasma, PIG Reflex, anomalous plasma diffusion, helium plasma

ABSTRACT: Plasma stability and diffusion were investigated in a cold-cathode reflex discharge in a longitudinal magnetic field (PIG Reflex). The discharge took place in a glass tube 5 cm in diameter containing helium at pressures from 5×10^{-4} to 10^{-2} mm Hg. The aluminum electrodes were 44 mm in diameter. The cathodes were separated by 70 cm, and the anodes, provided with 36 mm openings, were mounted 8 cm from their respective cathodes. Potentials up to 2 kV were applied, and currents from 50 to 300 mA were obtained. The longitudinal magnetic field was uniform within 0.5% and could be varied up to 3400 Oe. The following diagnostic instruments or procedures were employed: simple probes; a double electric probe on the axis; 3 cm microwave transmission measurements; electron temperature measurement by observation

ACCESSION NR: AP4028943

of the intensity ratio of the He II 4686 Å to He I 4921 Å lines; luminous intensity measurements. Electron densities and temperatures of the order of 5 x 10^{11} cm^{-3} and 20 eV, respectively, were observed. It was found, in agreement with the observations of J.F.Bonnal, G.Briffod and C.Manus (Phys.Rev.Let.6,665,1961) that the ion current to the wall of the tube reached a minimum at a certain critical value of the magnetic field and increased in stronger fields. The value of the critical magnetic field increased with helium pressure from about 500 Oe at 10^{-3} mm Hg to 1200 Oe at 5 x 10^{-3} mm Hg. The electron temperature and density on the axis reached maxima at the critical magnetic field. A radial electric field developed in the plasma at the critical magnetic field and increased with further increase of the magnetic field. Values over 60 mV/cm were observed. Macroscopic motion of the plasma column was observed by rotating mirror time-resolution photography. The column developed helical structure at magnetic fields above the critical, and pulsated at frequencies from 200 to 800 cycles/sec. Density oscillations at frequencies from 20 to 50 kilocycles/sec were observed by microwave and probe measurements. The electron temperature and the luminous intensity decreased monotonically with increasing distance from the axis, and the electron temperature had two maxima, one on the axis and one in the outer portion of the column. The increased ion diffusion at fields above

ACCESSION NR: AP4028943

the critical field is ascribed to the macroscopic motion of the column. It is suggested that these oscillations were not observed by Bonnal, Briffod and Manus (loc. cit.) because of their very low frequency. The rotation of the column is ascribed to azimuthal drift in the crossed radial electric and longitudinal magnetic fields. The origin of the radial electric field is not understood; several possibilities are briefly discussed. The failure of F.Chen and A.Cooper (Phys.Rev.Let.9,333,1962) to observe the increased diffusion is ascribed to the stabilizing influence of the metal walls of their discharge chamber with respect to the development of large amplitude magnetohydrodynamic instabilities. "In conclusion, the authors consider it their duty to express their gratitude to B.B.Kadomtsev, V.T.Tolok and Ya.B.Faynberg for discussing the results, and to I.Yu.Adamov and V.I.Kononenko for assistance in the work." Orig.art.has: 1 formula and 10 figures.

ASSOCIATION: none

SUBMITTED: 05Apr63 DATE ACQ: 28Apr64 ENCL: 00

SUB CODE: PH NR REF SOV: 003 OTHER: 006

Card 3/3

[illegible] EWT(l)/EWG(k)/EPA(sp)-2/T/EEC(t)/EPA(w)-2/EWA(m)-2 Pi-4/Po-4/Pz-6/Pab-10

ENCL [illegible]

L 1918-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT
ACCESSION NR: AP5024128 6 UR/0185/65/010/009/0977/0984 77 44

AUTHOR: Dushin, L. O. (Dushin, L. A.) 44,55; Kononenko, V. I. 44,55; Kovtun, R. I.; 44,55 B
55 Pryvezentsev, V. I. (Privezentsev, V. I.); Skybenko, A. I. (Skibenko, A. I.) 44,55

TITLE: Plasma investigation 21,44,55 by means of the interferometer and the microwave cut-off method

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 9, 1965, 977-984

TOPIC TAGS: plasma decay, plasma measurement, plasma diffusion, plasma electron temperature, plasma diagnostics 1M

ABSTRACT: The present paper describes a method for the study of plasma decay permitting a simultaneous measurement of phases and amplitudes of signals transmitted through the plasma. The phases were measured at 136 Gc/s and the amplitudes at 136.74 and 37 Gc/s. A method for plasma diagnostics by means of signals with different frequencies is also presented. An approximation of the radial plasma density distribution by means of the $F = 1 - (r/R)^{\gamma}$ function is discussed (γ is estimated by the measured mean electron density and the maximum density decrease, R is the radius of the plasma cylinder). An estimate is also made of the relative contributions of recombination and diffusion to the plasma decay process. In the

Card 1/2